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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,995	06/26/2003	Miles Justin Russell	C2C9138US01	5136

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EXAMINER	
LAM, CATHY FONG FONG	

ART UNIT	PAPER NUMBER
1794	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/606,995	RUSSELL, MILES JUSTIN	
	Examiner	Art Unit	
	Cathy Lam	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 June 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

In view of the amendment and remarks filed on Dec. 05, 2008, the 112 rejection has been withdrawn, however the pending claims continue to be unpatentable as following:

Claim Rejections - 35 USC § 102

1. Claims 1-4, 7-8, 9-11 and 15-18 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Sato et al (US 3932250).

Sato teaches a metal foil overlaid laminate and a method of making a circuit board laminate.

The metal foil overlaid laminate is comprised of a press plate (1) (or separator), a metal foil (2), a plastic film (3) (as a release film) and an adhesive layer (4) (Fig. 1b).

The press plate (1) (or separator) is placed between a metal foil (2) and a plastic film (3) (col 4 L 10-11). The metal foil (2) and the plastic film (3) are larger in size than the press plate (1); such that the metal foil (2) and the plastic film (3) are bonded together at the periphery edge by an adhesive layer (4) (col 4 L 24-27).

The examiner is taking the position that the press plate (1) which functions as a separator as well, since such press plate (1) would be removed subsequently (col 5 L 21-48).

The metal foil (2) can be a copper foil and the plastic film (3) which acts as a release film can be a polytetrafluoroethylene or an aluminum foil (col 2 L 30-50).

A plurality of metal foil overlaid laminates were placed between a set of external pressing plates (C) (col 4 L 51-62 & Fig. 3).

A method of manufacturing a circuit board laminate comprising the steps of alternately placing a plurality of metal foil overlaid laminates and a plurality of laminating bases (i.e. insulating layers) together between two external pressing plates (C).

The release film (i.e. aluminum foil or plastic film (3)) of the press plate (1) (or separator), are facing the pressing plates (c). The circuit laminate is then heated under pressure. When the laminating step is finished, the press plate (1) and the release film (3) would be removed (col 2 L 24-29, col 4 L 53-62 & col 6 L 4-7).

Claim Rejections - 35 USC § 103

2. Claims 5-6 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (US 3932250) in view of Backhaus (DE 19831461 C1) or Johnston (US 5725937).

Sato teaches the present invention but is silent about what the separator was made of and the thickness of the separator. Sato does not explicitly teach any space between the separator and the joint.

Backhaus teaches a metal foil laminate comprised of an aluminum sheet (1) and two copper foils (2) (Fig. 1).

The aluminum sheet (1) is used as a separator between two copper foils (2). the copper foils are larger than the aluminum sheet and the copper foils are joined at a point outside the edge of the aluminum separator but with some copper foil still projecting (3) (Fig. 1, col 2 L last full ¶).

The examiner is taking the position that the area (3) is a space between the aluminum separator and the copper foils' joint.

Johnston also teaches a PCB component which is a laminate (3) comprised of a sheet of aluminum and two sheets of copper foil (Figs 2 & 3).

The laminate (30) comprised of a copper foil, an aluminum foil and a copper foil; all in the named order. the aluminum has a thickness from about 0.01 to 0.015 inch (i.e. 254-381 μm) (col 4 L 50-55). The aluminum foil acts as a separator, has a smaller surface than the two copper foils, so that the copper foils are joined together by a band of adhesive (40) extends around the periphery (or at the border) of the two copper foils (col 5 L 53-60).

An area (46) between the edge or border line of the aluminum separator and an inner edge of the adhesive band is left without any adhesive (col 6 L 1-4 & Fig. 5).

The examiner is taking the position that this area (46) is a space between the separator and the joint as claimed by Applicant.

In view of the prior art teachings, one of ordinary skill in the art would choose aluminum as the separator and would have some space between the separator and the joint because aluminum is a relatively better thermally conductive material and is a good separator /releasing sheet, and the space is there for any thermal expansion during heating.

Response to Arguments

3. Applicant's arguments filed Dec. 05, 2008 have been fully considered but they are not persuasive. The prior art of record continue to meet the present invention.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cathy Lam/
Primary Examiner, Art Unit 1794